

BULLETIN

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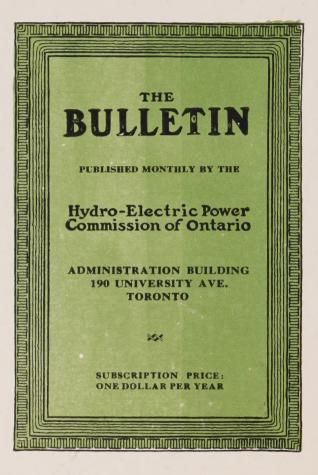
Hydro-Electric Power Commission of Ontario
JANUARY

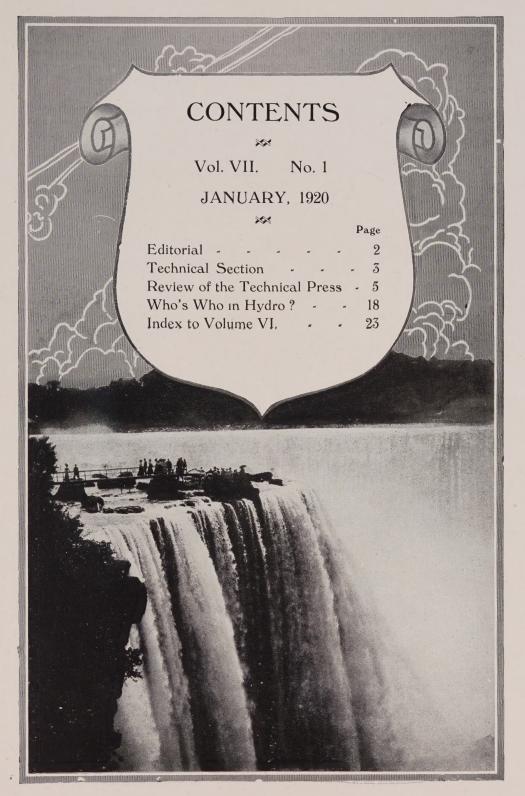
1920



Bridal Veil Falls

ASHIM OF 40 &







# Editorial



HE loyal support of the ratepayers of this province to Hydro is strikingly illustrated in the

recent municipal elections. Out of seventeen municipalities interested in the Hamilton-Galt-Elmira line, fourteen municipalities held a referendum recently. In only one case was the By-law defeated, which was in Flamboro West Township, where the unfavorable majority was only 94 votes.

Three municipalities are still to vote on this railway line. They are Hespeler, Guelph Township and Puslinch Township. Votes will be taken in these municipalities in the near future and there is every reason to believe that the By-law will pass with good majorities in all of them.

All of the municipalities interested in the Toronto and Eastern Radial Railway have endorsed their By-laws by large majorities—averaging in most cases about 8 to 1—with the

exception of York Township. An election will be held in this latter township on January 17th.

The other thirteen municipalities which voted on the Bylaw on the Hamilton-Galt-Elmira line were:

$\mathbf{F}_{i}$	avorable
$\mathbf{M}$	ajority
Hamilton	3,914
Dundas	237
Galt	956
Preston	164
Elmira	269
Kitchener	767
Waterloo	386
Guelph	851
Ancaster Twp	178
Waterloo Twp	174
Beverley Twp	140
Dumphries N. Twp	15
Woolwish Twp	257
1	Against
Flamboro W. Twp	94

These results are certainly encouraging to everybody connected with Hydro. They bespeak an early realization of Sir Adam Beck's plan of unified transportation and power—owned by the people and operated for them at cost.



### French Legislation Aids Water Powers

By Leo G. Denis,

Commission of Conservation, Ottawa



ONG before the war, the French Government realized the great value of waterpower resources and undertook a thorough investiga-

tion of the "white coal" of that country. War conditions had the effect of further accentuating the importance of waterpowers to the nations. Several large hydro-electric developments were rushed to completion and proved invaluable in assisting war production.

The proposed new French law respecting new or dormant water-power possibilities is of interest as it shows that the measures now in force in Canada are far from being too drastic in maintaining public control over the utilization of our water-powers. This is especially the case because in Canada hydro-electric power is essential to the full development of some of our other valuable resources.

The new French law provides the same treatment for all water powers, including power from tides, and the importance of the purpose for

which the power is to be used is the primary consideration in determining the relation between private rights and public authority. As compared with the old law, the water power lessees on state-owned streams are given additional facilities in return for the rentals paid to the public treasury. Private streams are subjected to state authority so far as power utilization is concerned and the lessees are given certain rights in derogation of the privileges riparian owners. The law applies to water power utilization of 500 k.w. and over, the leases being for a period of 75 years, the works and buildings becoming state property at the end of said period on payment of adequate compensation.

In support of the new Act, it was urged that, owing to the serious shortage of coal in France, nothing should be left undone to secure the maximum amount of power from streams. In the coalless provinces of Ontario and Quebec the displacement by hydroelectric energy of coal imported from the United States reduces the unfavourable balance of trade which is so heavily against us.

## Canning and Drying with Electricity

Electric Ovens and Fireless Cookers prove Economical By Leo. G. Denis

Commission of Conservation, Ottawa



XPERIMENTS have recently been carried out by the United States Department of Agriculture to ascertain the best methods

of using electricity in the home for preserving, canning and drying fruit and vegetables.

By using the hot plate of an electric range in exactly the same way as a coal or gas stove an excellent product was obtained but the cost was too high. A second series of tests was made, in which the oven of the electric range was used, thus obtaining the sterilization temperature by baking instead of boiling. The water bath was omitted and the cans were placed on a rack in the oven. By these means a reduction in the cost was effected.

The electric fireless cooker proved the most efficient method of all, the cost being only one-half that of the oven method. When employing this apparatus, the material is blanched and packed as usual, the jars are placed in the cooker and the electricity is turned on full strength until the thermometer registers 180 degrees. The switch may then be turned down to the lowest heat, as 40 watts has been found sufficient to keep the jars at the sterilizing temperature.

The reason for the much more economical operation of electric ovens and fireless cookers is to be found in the fact that the source of heat and the articles being cooked can be enclosed together in an air-tight space, while with fuel ranges a large amount of heat is unavoidably lost into the air.

Drying of vegetables was also tried, using first the oven of an electric range, then a combination of range and electric fan and, finally, the fan alone. The cheapest way is to make use of the residual heat left in the oven following some cooking operation. This is sufficient to start the drying process, then, when the oven is nearly cool, the door is opened and an ordinary electric fan is placed near by. This soon finishes the drying process and also prevents the oven from rusting.





# Investigation of the Corrosion of Cables



NVESTIGATION at St. Louis, which was referred to some months ago, has now practically been brought to a conclusion. The occasion of

the work was a very serious case of corrosion of lead cable sheaths which appeared to be different in some respects from that ordinarily found. After extensive investigations regarding conditions both past and present under which these cables have been operated, and supplementary studies on the conditions under which lead is corroded, the conclusion has been reached that most of the burnouts now occurring are the result of electrolytic corrosion which occurred during the first few months after the cables were installed. The serious difficulty and large expense which are now being experienced are, therefore, the result of damage done several years ago. The long period which elapsed between the injury to the sheaths and the burning out of the cables is accounted for by the slowness with which moisture penetrated the varnished cambric insulation. As the insulation became moist, the

dielectric losses increased and in many instances the immediate cause of failure of the cables has been overheating resulting from the large dielectric loss. A considerable number of failures was found to arise from surges of electric current resulting from other burnouts.

The peculiar appearance of the lead sheaths which gave rise to the belief that the failures were due to some hitherto unknown cause was found to be due to chemical action which had little to do with the failure of the cables.

In this case the damage has already occurred and can be repaired only by installation of new cables. Consequently, the Bureau of Standard's investigation of the problem has resulted in no saving to the company. The investigation has, however, been well worth while in that it has afforded a forcible object lesson of the importance of prompt attention to electrolysis conditions when new installations are made, and it will, therefore, be of value in promoting careful consideration of electrolysis problems.—
Engineering World.

### Electricity vs. Steam

IR ADAM BECK'S vision of all Canada illuminated and her transportation system revolutionized by the application of electric

energy developed through the utilization of the waterpower of the St. Lawrence seems foreshadowed in a test of comparative strength of electricity and steam at Erie, Pa., recently. A monster gearless engine was pitted against two steam-driven locomotives for power and speed in the presence of 150 prominent railroad men of the United States and Canada. who witnessed what F. J. Sprague, known as "the father of railway electrification," described as "the most magnificent exhibition of electricity applied to railroads the country has ever seen," and a conclusive test of power between steam and electricity.

The series of tests included trials of speed, in which one of the new locomotives being made for the Chicago, Milwaukee & St. Paul Railroad Company, drawing two full passenger trains and carrying 18 guests in the cab covered the four miles of test tracks at a speed of more than a mile a minute. The most spectacular test was a tug-of-war between the electric engine and two powerful steam engines, which at first pushed the

electric until the current was turned on when the steam engines gradually lost momentum, though still exerting their power to the limit and were forced backward to a full stop. Another test demonstrated the regenerative-breaking power of the electric, when the two steam engines exerting full power were unable to overcome the resistance of the electric which was at the same time turning back current to the power-house, the electric motors being converted into electrical generators by the turn of a switch.

Railway men have for some time foreseen the replacement of steam by electricity for railroad purposes. There have been obstacles to overcome, several of which seem to have been obviated in these new locomotives. The cost of substitution will doubtless be immense, but every great advance in the history of transportation has occasioned the scrapping of old appliances for those of greater efficiency. The present generation may live to see a long railway journey robbed of the discomforts of smoke and cinders and the demand for greater speed gratified, while the conservation of coal will be no small item in the saving of our natural resources.—Press— Detroit, Mich.

REMEMBER: January 16th is the date of the Electric Banquet.

# Welcome Beck at Rotary Meeting



IR ADAM BECK told London Rotarians today that the day was coming when the centre of the steel industry of the world would be on

the shores of the Province of Ontario.

The Hydro Chairman read a newspaper despatch dealing with the proposed electric power bill introduced by Lloyd George in England.

"England," said the Hydro leader, "is ten years behind Canada."

He had been invited to meet Lord Northcliffe on the occasion of his Christmas visit to England.

"I shall have words of encouragement for him on the matter of electric power," he said. "I shall be able to tell him that we began with 76,000 horse-power, and that we have to-day 365,000 horse-power, that we are now engaged in the development of 500,000 horse-power on the Chippewa scheme, and that we hope to shortly be producing twice as much power in a St. Lawrence River scheme.

#### An Illuminated Christmas Card

The Rotarians made the Chairman fill up with emotion by the splendid enthusiasm of their reception, the more particularly because of the references that were made to Lady Beck, who is ill in England. For a few moments it seemed that the Hydro chief would lose control of himself, when, in reply to the words of Rotarians Yendall and Silverwood and the presentation of a magnificently illuminated Christmas card, the work of Rotarian Barnard, he essayed to speak. The card read:

"The Rotary Club of London extend to Sir Adam and Lady Beck best wishes for a Merry Christmas and many years of joy and happiness."

Sir Adam paid the highest tributes to his wife, who, he said, had stood by and encouraged him in everything and to whose effort, particularly in the war, was to be attributed, at least in part, her present illness.

Speaking later, Sir Adam said: "But why do we here speak of what we may or may not have done, when we consider what some of our splendid citizens have done—the men who gave their lives, or the lives of their sons, in the defense of this country?"

#### A Prophecy That Failed

Dealing with the growth of Hydro, Sir Adam said it had been predicted that Hydro would bankrupt the province.

"We began with an investment of \$3,500,000," he said. "To-day we have an investment of a hundred millions, and we have not injured, but rather have benefited the credit of the province. The Hydro bond is the most-sought-after bond on the market.

Development that was now going on at Niagara Falls would, he predicted, displace the use of 50,000,000 tons of coal. The commission were absolutely stranded for power to-day. They had taken 25,000 horse-power from industries at the Falls in order to equalize distribution over the whole power area and had been compelled to refuse petition after petition for more power.

Sir Adam said Rotary had been a great inspiration to him. He was glad

to tell them as friends that the last word from England was that Lady Beck was convalescing.

The Rotarians cheered and applauded the Hydro Chairman at every turn.

Sir Adam sails for England probably at the end of this week.

New Rotarians

Messrs. Thos. McCormick, George English, W. H. Mooney, Benjamin Brick, George Copeland, S. E. Kipp, and Frank Willgoose were received as new members.

There were many visitors present, and the gathering crowded the hotel dining-room, which was filled to excess.

# Tremendous Sales Possibilities in Household Electric Appliances



HE sale of household electric appliances is on the threshold of a growth so great as to literally stagger the imagination. It is a

field so rich in possibilities that no one can afford to overlook its significance and magnitude. The needs of each home, in the way of electrical appliances, and the purchases made to fill those needs represent the greatest sales field that exists in the world. In Canada there are about one and onehalf million homes. In each of these homes there is the immediate need of electrical appliances which the great shortage of domestic help is stimulating in a truly surprising manner. The electrical clothes washer is one of the most essential of these appliances, and therefore every home is a real prospect for the sale of a washer. If only one out of every twenty purchased each year, which is a very modest estimate, this would mean over \$10,000,000 a year of washer sales

alone, to say nothing of Vacuum Cleaners, Ironers, etc.

There are thousands of homes right around you where women are in great need of these appliances, and you may be sure that some day an electric washer will be in every home. As far as the Electric Washer is concerned, you can take hold of it knowing that you have positively the best machine that can be made. You need not hesitate to recommend it. It has stood every exacting test with complete success, and women who use it would not be without it even if it cost many times its price. It is simple to operate, thoroughly efficient in its work, and highly economical in the use of electricity. Yours is a marvellous opportunity both to serve the community and make money through the sale of the Electric Washer.—The above is an extract from the 1920 Trojan Electric Washer sales plan. Full particulars can be had on request to the Sales Dept.

# The Unique Service of the S.E.D.



A corporation for co-operation; an organization devoted to promoting public understanding and use of electrical service; a source of inspiration and help for all branches of the electrical industry—The Society for Electrical Development.





HE reasoning man who examines into the multiform activities of the Society for Electrical Development, Inc., invariably recognizes its

great usefulness. The fair man helps the good work of the Society along by becoming a member and giving active support to its endeavors; he employs the Society's services to advance his business, thus reimbursing himself and at the same time helping the entire industry to develop.

All business units within the electrical industry are benefitted by the work of the Society, whether members or not, in fact few individuals in the electrical industry are fully aware of the great scope of its influence. What it is accomplishing is indicated, not alone by the enthusiasm aroused by its formal campaigns to promote the buying of appliances and greater use of electrical service, but also by the direct results of its many and varied services to its members.

Articles are appearing constantly in important popular magazines, in womens' publications and in the newspapers, on the various phases of the household application of electric service and the part they are playing in modern domestic economy. Some of those articles appear over the signature of the Society, but there are many which are signed with fictitious names, in order that the number of contributors to such publications may not appear too limited. Technical

and commercial articles are likewise written for the scientific and trade papers of every industry, describing the adaptation of electrical power. heat and light to their specific problems. As a consequence of all this. inquiries are constantly being received from both editors and readers of these journals, for information which is freely given, and thus the trade and popular interest and recognition are being steadily developed. There has been evidence of direct returns in many such cases, where manufacturers and central stations have secured immediate business by following up those inquiries. The value of such cumulative influence cannot fairly be questioned. There are many other phases of the Society's work that are proving equally successful. Literally millions of people have had their interest awakened by the moving picture plays featuring the comforts of electric service which the Society has developed in co-operation with the regular producers.

By correspondence with fire department chiefs and newspaper editors the Society has largely discouraged the practice of attributing every fire of uncertain origin to "crossed electric wires." Similarly the Society recently secured the condemnation of a moving picture where a man was pictured as being killed by a shock from an electric percolator, and has secured the co-operation of the producers in protecting the electrical industry against such lamentable misrepresen-

tations. In the same way the Society has safeguarded the common interest by discouraging advertisements of a fear-instilling character such as the use of the zigzag lighting picture as a symbol of electricity.

On the staff of the Society at its headquarters in New York are skilled writers, both men and women, who are creating and carrying on this propaganda. Also representatives of the Society are in attendance at all important electrical conventions, and during the year talk to gatherings of electrical men and aid in the organization of local co-operative bodies. The Society has several times acted as mediator in local conflicts between the central station and the contractors and succeeded in harmonizing the situations. The Society, in fact, is the only organization in the industry in which the dealer, contractor and central station and the manufacturer and jobber are all represented with an equal right and power, and as such it forms the natural medium for contact and co-operation between these semi-separate interests. That is to say, the Society is the only organization extant which actively represents the entire electrical field. Each branch of the electrical industry has its own organization; but the Society for Electrical Development represents every interest and co-ordinates with the different national organizations. It is the clearing-house for universal electrical development.

# The Society as an Organizer of National Trade and Educational Campaigns

Despite the fact that the Society commenced its active work during war time, it has succeeded in organizing and conducting various trade and educational campaigns which have redounded to the great good of the industry and the country at large. And no reference to the Society would satisfy that neglect to mention those accomplishments.



we stand for the good of the cause, but — members are members.





The first national electric campaign, and the first nation-wide movement ever inaugurated by any nation for the good of the Indus-

try, was Electrical Prosperity Week, held November 29th to December 4th, 1915. It was entered into by nearly every large city—and most smaller communities—from Portland, Maine, to Portland, Oregon, Canada did its share, too.

During this drive there was over \$1,000,000 worth of publicity given the Electrical Industry. The Society mailed out over 7,649,200 pieces of literature and hundreds of thousands of other pieces were distributed by participants. It was a campaign that made sales while giving the Electrical Industry the greatest boost it had ever received. For instance, Denver sold 801 appliances against 263 the corresponding week of the previous year, Boston Edison increased its appliance sales 115%, the Hurley Machine Company estimated their business at 100% better than a year before.



Then came America's Electrical Week, in December 2-9, 1916, a notable feature of which was the great Poster Contest, for which

over 800 poster designs were pre-Shows, pageants, exhibits, pared.

displays, were held in hundreds of cities—and appliance sales and housewiring orders far eclipsed the total of Electrical Prosperity Week. Again the magazines and newspapers carried publicity, which figured on the actual advertising rate value of the publications ran into millions of dollars. Local electrical interests in New York City alone spent more than \$800,000 for electrical advertising in the news-Special issues of Collier's, Scientific American, Scribners, Leslie's and many other magazines conveying the electrical message, were issued, telling the story "Do It Electrically" to almost every man, woman and child in America. The Statue of Liberty was flood-lighted as the opening gun of the Campaign and the entire industry got behind the great preparedness movement.



America's Electrical Christmas, 1917, was a short, quick drive to popularize electrical Christmas Half a million pieces of literature were mailed out:

hundreds of thousands of dollars worth of newspaper publicity was secured, and appliances running well over half a million dollars were sold.

Wire-Your-Home Month and Wire-Your-Home Time, two special housewiring campaigns, were held between



the times of these big national movements. They resulted in the wiring of 50,000 homes (20,000 in one campaign alone) during the time of the campaigns. On a basis of \$50 worth of wiring and appliances going into each of these homes it represents a total volume of business of \$2,500,000.

A prominent feature was the house-wiring contest inaugurated by the Society, in which there were 90 contestants who wired over 11,000 homes in six weeks.



The Save-by-Wire Campaign, September, 1918, was inaugurated to cooperate with the Government and at the same time

incorporate the message of saving—the economy, efficiency, comfort and convenience of "Doing It Electrically." This campaign was primarily intended to secure a wider use of electricity in already wired houses. It also aimed at the standardization of the term "Outlet." Thousands of homes were wired and many additional thousands of outlets installed. In over 200 cities and towns throughout the country the campaign was carried on. The war restrictions were being felt; the Society's message

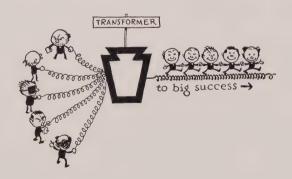
helped materially to prove to customers that electrical appliances and electrical energy were "Essentials."

Electrify-Your-Home, April 1st to May 15th, 1919, was the first post-war house wiring campaign conducted by the Society. It was an intensive movement to wire more old houses, to show people why they should "do it now." It succeeded admirably. Over 2,000 companies in 596 cities participated in the drive; and while it was impossible to secure a count of the actual number of houses wired there is amply reason for stating that the total was large, very large.

"An Electrical Christmas" is the campaign which the Society is conducting to make Christmas, 1919, a harvest time for dealers



and others devoted to furthering the sale and use of things electrical. As in previous drives the Society is headquarters for the advertising and selling helps needed by those participating in the campaign. At this writing it is too soon to forecast the results of this campaign, but there is evidence a-plenty that the volume of selling will be unusually large.





# The Society as Exploiter and Distributor of the Standardized Cost Accounting Plan as Adopted by the Electrical Industry.

Recognizing the imperative need of a simplified method, system or plan for ascertaining and keeping merchandise cost records the Society set about investigating existing systems, with a view to adopting the best possible plan. Other trade organizations had been working to the same end: the Society in its research found no less than five separate and distinct accounting plans under way. state of affairs gave every assurance of occasioning waste, lost effort and motion and endless expense. Therefore, in its capacity of "neutral" organization the Society worked with these several associations with the view of promoting concerted action. The Society had little to do with the making of the plan, but it has interested itself in bringing this standardized cost accounting plan to the attention of every electrical dealer and contractor and urging its use.

#### Special Services Alone Make Membership in the Society Profitable.

The Society's activities so far mentioned benefit members and nonmembers alike and are for the good of the Industry at large. Their value is fully shown by the results that have been attained. But it is in rendering "Special Services," as they are called, to its members exclusively that the Society may really be said to get in its best work. Central station, dealer. contractor, manufacturer, jobber-all look to the society for individualized help now and again, the nature of which is as varied as the needs of those desiring the service. A manufacturer member, for instance, desires to employ a sales manager possessing very special qualifications and does not wish to assume alone the responsibility for making that selection. The Society advertises for such a man, interviews the applicants, selects the best ones and then sits in with the manufacturer when the final choice is made. Central station interests desiring facts or figures not easily come by have frequently found that the best avenue for securing that data is through the Society's department devoted to statistics and research. Again, the dealer who desires plans for laving out his new store, or suggestions for window displays, or a plan for instructing and making his sales force more efficient, has only to put his troubles up to the Societyand follow intelligently the recommendations received. Obviously the abilities and experience indicated by the success of the big campaigns which the Society has inaugurated and carried through are intensified in effectiveness a hundredfold when concentrated upon the problems of the individual member.

Among the most appreciative users of the Society's Special Services are the central stations; and as it's by practice that perfections attained, the quality of those services is above that which the average central station might contrive unaided. Where the individual central station has occasioned to prepare one advertisement

the Society supplies demands for many. Such experience exerts a cumulative benefit—the service to the next member is all the better.

Two good examples of central station advertising as prepared by the Society are shown here, a so-called "policy advertisement," and one exploiting the value of central station service. Central stations faced with the necessity of having to secure a higher rate for service and of persuading their customers to accept that increase gracefully have in many instances found the counsel and help of the Society invaluable. Upon occasion the Society has even seen fit to have a representative go to such localities and study the local conditions at first hand, in order to be thoroughly apprised of the facts before recommending the policy to be pursued. The value and importance of service such as that is hardly to be measured in dollars and cents, but it is available, nevertheless, without stint in return for the nominal charge for central station membership in the Society.

For other central stations, too, the Society has supplied complete plans for selecting and training salesmen and conducting campaigns to sell appliances or service. Special window displays have been designed, copy for direct-by-mail and newspaper advertising prepared, suggestions for districting the city laid down-everything, in fact, necessary to be done has been anticipated and provided for. Such is the service enjoyed by those who are members of the S.E.D. Thousands of Special Services have been rendered to members since the Society commenced to function in To-day those services possess the high qualities of merit made possible only by much practice, and the

central stations and others who are making use of those services to-day are enjoying advantages of very great value, indeed.

#### The Society Publishes Many Helpful Booklets

While not in any sense a publishing concern the Society has found it advisable to issue from time to time certain booklets and printed data for the use of its members. These publications are of two classes and serve two ends. They either tell the individual member how to get more business and profit, or they tell the public why and how best to use one or more applications of electricity. The first group are distinctly "how to" booklets; the second, effective popular advertising. And that such booklets are needed, and urgently, is demonstrated by the keen appreciation shown for the Society's issues by members, and the equally keen desire of non-members to acquire and use them. This library of business-building literature is being added to from time to time, a recent important addition being the "Electric Range Handbook," now in its third edition. In fact, the Society's publications hold an unique place between the manufacturer's bulletins and the periodical trade press which otherwise cannot be filled.

One publication which all members of the Society look forward to is the monthly issue of the Sales Service, a magazine size booklet of from twenty-four to forty-eight pages wherein are supplied timely plans and suggestions for all interested in the merchandising of appliances or electrical service.

A regular feature of this issue is the prepared copy for advertisements and the furnishing of the necessary cuts or matrices for use in having the copy printed in the member's local paper. Plans for window displays also form a regular department and they are made use of each month by many electrical merchandisers.

The cost of membership in the Society is relatively among the smallest of business expenses. Central stations pay one-fifteenth of one per cent. of their gross business for light, heat and power, exclusive of current for railroads and telephones. This

amounts to only sixty-six cents on each thousand dollars' worth of business, and the Society makes no distinctions in the services rendered to members, regardless of what they pay; all are served with equal willingness and enthusiasm. Every member is entitled to all the service that is needed and can be consistently rendered.

Central stations and others wishing further information regarding this unique servant of all within the Electrical Industry can secure it by writing direct to the Society for Electrical Development, Inc., 29 West 39th Street, New York City, N.Y.





ARE YOU DOING YOUR OWN IRONING?

# If so, why?

makes ironing easy and cool. A great many women have been taught that ironing is <u>not</u> exhausting—not when they use the HYDRO IRON.

Hydro Irons heat rapidly—only three minutes required to get exactly the heat you want. GUARANTEED FOR 5 YEARS USE

PRICE

This plate may be had free on application to the Publicity Department.

# WHO'S WHO in HYDRO?



B. CHANT was born in the County of York, near Toronto, and received his education in a country school. He then served a full

apprenticeship in the wood-working trade, but soon afterwards turned his attention to machinery and steam and electrical engineering. He soon realized that his education was only begun and that he must know more about mathematics and science. After considerable studying in his spare time he obtained his membership in the Ontario Association of Stationary Engineers. Shortly after this he embraced an opportunity to take a course in the I.C.S.

Then he was given charge of the electrical and steam engineering plant of a company engaged in the manufacture of pianos, and not long afterwards was also made Superintendent of the factory. About this time his fellow-citizens elected him a member of the Waterworks Commission, of which he was chosen chairman.

In 1913 the town of Clinton decided to do its own electric lighting and bought out the Clinton Electric Light Co., and Mr. Chant was given the management of both the electrical and waterworks departments of the town.

In 1914 Clinton became a customer of the Hydro-Electric Commission,



H. B. Chant

and the electric and waterworks departments were placed under a "Public Utilities Commission," and Mr. Chant was appointed supermtendent and Treasurer, with full charge of the office and the outside work.

Mr. Chant is quite active in societies, being a Mystic Shriner and an Oddfellow.

He thinks Clinton Utilities, for their size, are hard to beat, and he is always pleased to show visitors the installation.



EORGE GROSZ was born in Waterloo, Ontario, September 2, 1881, and was educated in the Waterloo Public School. At the age of

16, he entered the employment of the Waterloo Electric Power Company, which was in 1897. A few years later he took a course in electrical engineering in the Scranton Schools, and in 1904 became electrical superintendent of the above company.

In 1909 the town of Waterloo purchased the power plant, and Mr. Grosz was put in charge of the Waterloo Water & Light Commission where he is engaged as electrical superintendent.

Mr. Grosz was also given full engineering charge of building a new brick station and installing a new 25-cycle steam-driven electric power plant. In 1910 he installed the electrical apparatus for Hydro power, which was put into operation in November of that year.



George Grosz

## Stop Burning Up Homes

The housing problem is one of the great issues of the day. All unnecessary construction was forbidden during the war, and now that the restrictions have been withdrawn the high prices of materials and labor and industrial troubles have tended to reduce the amount of building. In many industrial centres newcomers are unable to get houses to live in, rents have gone up, and the situation has become so serious that state and municipal commissions are seeking a solution.

Why not stop burning up the existing buildings, if there are not enough to go around and more cannot

be built under existing conditions? Thousands of homes are burned each month, most of them through carelessness. If housing is so important, if homes are so hard to find, why not be careful with those that we have? Apply fire prevention methods. Be careful about matches, smoking, lighting and heating apparatus and gasolene. Clear out the rubbish, inspect the flues, watch the shingle roofs. Conservation is the order of the day, and if the shortage of dwellings will cause householders to be careful about the fire hazards of their homes one criminal cause of that shortage will be greatly reduced.

While attending the A. M. E. U. Convention

# Don't Forget THE ELECTRIC BANQUET

at the

# JAN. 16

at 6.30 p.m.

Get the wonderful forecast of the future of the Electrical Industry—by WILLIAM GOODWIN

under the auspices of

Toronto Section, American Institute of Electrical Engineers Association of Municipal Electrical Utilities of Ontario Canadian Association of Manufacturers of Electrical Supplies Canadian Electrical Supply Jobbers' Association Ontario Association of Electrical Contractors and Dealers.

Chairman:

Brig.-Gen. C. H. Mitchell, C. M. G.

### Selling Electric Washers in a Village of 1,040

By T. O. Van Bridger

Supt., Winchester Hydro-Electric System



Y first acquaintance with the Kribs washer was when I received the first machine by express early in the fall. After looking the mach-

ine over, I decided that this machine was just the one I had been looking for to meet our local demands.

What appealed to me particularly was the neat and compact design and the quiet running of the cut gears. Other points which I noticed were—ample motor capacity, motor mounting independent of tub bottom, tub free from supporting bolts and bolt holes, positive wringer control and a popular price.

I decided that we could sell these machines to our customers without fear of future annoyance and I made out a list of the customers who had no who really electric washers and needed machines of this kind. names selected were mostly those of people who had a number of children in the house and who were doing their own washing or having it done in their own homes. I selected thirty good prospects and ordered a dozen washers. If these washers had been taken up one month earlier I think we could have sold thirty of them, but in a small village like this where the most of the people have only moderate means, money begins to tighten up in the fall as soon as winter threatens to make an appearance.

When the shipment of washers arrived, we hauled them one at a time on a light delivery truck from

the station and removed the crates on the sidewalk in front of the Hydro Shop. This occupied nearly a whole day and as we are on the main street of the town nearly every one knew that we had in a consignment of new washers before we had them fairly arranged in the shop. This was practically all the advertising that they received.

We placed all the washers in homes during the next two days. We did not talk sale to any one, we selected our prospects and asked their permission to put the washer in for a few days until they had tried it out and until we could get some contract forms, etc.

We then let matters stand for two weeks, during which time half of the machines sold themselves and we had received cheques for them. We then wrote letters to the others, which were worded to suit the individual cases. In this letter we drew the prospect's attention to the good points of the machine, also the low price, and we offered terms which we thought would be acceptable in each individual case. The result was that every machine was sold and it was not necessary for us to remove any of them.

We do not consider the present a good time to push washers for, as we have said, winter tightens up the purse strings of most village folk. We hope to get an early start next season and we expect to supply electric washers to a large proportion of our customers during the coming year.

## Industrial Lighting Prospectus



HE Society for Electrical Development has issued a 16-page multigraphed prospectus containing facts and figures based upon the

results of a survey covering 446 industrial consumers in 57 towns in 15 states, in which a large percentage of the industrial activity of the country is concentrated.

These facts and figures are intended for the use of salesmen in convincing factory executives or superintendents that their plants are in need of better illumination.

With the curtailment of the hours of production every manufacturer in

the country is interested in speeding up his plant, increasing production, decreasing spoilage and reducing the number of accidents. Proper illumination will accomplish these results at a minimum expense. Now, therefore, is the logical time to start a campaign for better industrial lighting.

The prospectus also contains suggested letters to send to prospective customers and some newspaper advertising suggestions. It is sold for fifty cents and is to be followed in the near future with an Industrial Lighting Handbook. The idea of issuing this prospectus is to get something into the hands of lighting salesmen immediately so that everyone may get started now while the time is ripe.



#### NOTICE

# TO ELECTRICAL MANUFACTURERS, JOBBERS AND DEALERS

All electrical material, devices and fittings for use on inside electrical installations in the Province of Ontario, *must not be offered for sale* until their design and construction has been approved by the Hydro-Electric Power Commission of Ontario. (6 Geo. V., Chapter 19, 1916).

Manufacturers whose products are approved and listed by other recognized authorities, and which also meet the requirements of this Commission, may have same placed on the approval list by making application in accordance with Approval Laboratories' Bulletin No. 5, a copy of which will be sent upon request.

ONTARIO DEALERS' ATTENTION IS CALLED TO THE FOREGOING REGULATION—WHICH PROHIBITS THE SALE OF UNAPPROVED ELECTRICAL DEVICES.

APPROVAL LABORATORIES

HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

8 STRACHAN AVENUE, TORONTO, ONTARIO

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NIAGARA SYSTE	M		Pop.	60 Cycles Pop.
		Port Credit	1,179	Gravenhurst 1,600
25 Cycles	Pop.	Port Dalhousie	1,318	Huntsville 2,135
Acton	1,570	Port Stanley	831	Total 3.735
Ailsa Craig	462	Preston	5,284 600	Total 3,735 EUGENIA SYSTEM
Ancaster	400	Ridgetown	2,080	60 Cycles
Ancaster Township	4,577	Rockwood	650	Alton 700
Aylmer	2,119	Rodney	626	Artemesia Township 2,396
Ayr	780	Sandwich	3,077	Arthur 1,003
Barton Township	710	Sarnia	12,323	Chatsworth 286
Beachville	6,0 <b>6</b> 1 503	Scarborough Township	5,525	Chesley         1,860           Dundalk         750
Biddulph Township	1,750	Seaforth	$\frac{2,075}{4,032}$	Durham 1,520
Blenheim	1,257	Springfield	422	Elmwood 500
Bolton	727	St. Catherines	17,917	Flesherton 428
Bothwell	695	St. Jacobs	600	Grand Valley 586
Brampon	4,023	St. Jacobs	400	Hanover 3,310
Brantford Township	26,601	St. Mary's	3,960	Holstein
Rragion	7,739 500	St. Thomas	17,216	Horning's Mills
Brigden Burford	400	Stamford Township Stratford	3,418 17,371	Markdale 904
Burford	700	Strathroy	2,816	Mount Forest 1,871
Burford Township	3,882	Streetsville	500	Neustadt 470
Burgessville	300	Tavistock	974	Orangeville 2,381
Caledonia	1,236	Thamesford	504	Owen Sound 11,819
Chatham	13,943	Thamesvine	742	Shelburne 1,018
Clinton	707	Thorndale	250	Tara 620
Clinton	1,981 800	Tilbury	1,605	Total 33,057
	230	Tillsonburg	3,059	OTTAWA SYSTEM
Dashwood	350	Toronto Township	5,008	60 Cycles
	350	Townsend Township	3,268	Ottown 100 561
Dereham Township	3.176	Townsend Township Vaughan Township	4,059	THUNDER BAY SYSTEM.
Dorchester	400	Walkerville	5,349	60 Cycles
Dorchester S. Tp	1,457	Walkerville Wallaceburg	4,107	Port Arthur 15,224
Drayton	613	waterdown	696	CENTRAL ONTARIO SYSTEM
Dresden	1,403	Waterford	1,027	60 Cycles
Drumbo	400	Waterloo	5,091	Belleville 12,080
Dublin	218	Waterloo Township	6,538	Bloomfield
Dundas	4,834 3,286	Watford Welland	1,115 7,905	Brighton 1,278
Dunnville	840	West Lorne	708	Cobourg 4,457
Elmira	2,065	Wellesley	583	Colborne811
Elora	1,005	Weston	2,283	Deseronto 2,061
Embro	472	Weston Windsor	26,524	Kingston 22,265
Etobicoke Township	5,822	Woodbridge	615	Lindsay 7.752
Exeter	1,504	Woodstock Wyoming	10,004	Madoc 1,114
Fergus	1,679	Wyoming	526	Millbrook 746
Flamborough E. Tp	2,229	Zurich	450	Napanee         2,881           Newburgh         444
Forest	1,421 11,920	Total 1	250	Newcastle 600
Georgetown	1,654	Total 1,0	001,200	Omemee
Goderich	4,553	SEVERN SYSTEM	AT .	Orono 700
Grantham Township	3,133	60 Cycles	-	Oshawa 8,812
Granton	300	Alliston	1,237	Peterboro 28,996
Guelph	16,022	Barrie	6,866	Picton 3,408
Hagersville	1,053	Beeton	588	Port Hope 4,486
Hamilton	104,491	Bradford	946	Stirling 823
Harriston	1,563	Camp Borden	*******	Trenton 5,169
Hensall				
Wagnalaw	717	Coldwater	617	Tweed
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Hespeler Highgate Ingersoll	2,887 427 5,300	Collingwood Cookstown Creemore	7,010 635 599	Wellington
Hespeler	2,887 427	Collingwood Cookstown Creemore	7,010 635	Wellington
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel	2,887 427 5,300 19,380 350 2,291	Collingwood Cookstown Creemore Elmvale Midland Orillia	7,010 635 599 775 7,109 7,448	Wellington
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel	2,887 427 5,300 19,380 350 2,291 57,301	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang	7,010 635 599 775 7,109 7,448 3,672	Wellington
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township	2,887 427 5,300 19,380 350 2,291 57,301 6,024	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol	7,010 635 599 775 7,109 7,448 3,672 500	Wellington   829   2,902
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township	2,887 427 5,300 19,380 350 2,291 57,301 6,024 2,212	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner	7,010 635 599 775 7,109 7,448 3,672 500 990	Wellington   829   Whitby   2,902     Total   118,478     ST. LAWRENCE SYSTEM   60 Cycles   Brockville   9,473   Chesterville   868   Prescott   2,630
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan	2,887 427 5,300 19,380 350 2,291 57,301 6,024 2,212 643	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner	7,010 635 599 775 7,109 7,448 3,672 500 990 250	Wellington
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden	2,887 427 5,300 19,380 350 2,291 57,301 6,024 2,212 643 662	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557	Wellington   829   Whitby   2,902     Total   118,478     ST. LAWRENCE SYSTEM   60 Cycles   Brockville   9,473   Chesterville   868   Prescott   2,630
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham	2,887 427 5,300 19,380 2,291 57,301 6,024 2,212 643 662 909	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542	Wellington   829   Whitby   2,902   118,478   ST. LAWRENCE SYSTEM   60 Cycles   Brockville   9,473   Chesterville   868   Prescott   2,630   Williamsburg   100   Winchester   1,042   Total   14,113
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton	2,887 427 5,300 19,380 2,291 57,301 6,024 2,212 643 662 909 1,670	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557	Wellington
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milverton	2,887 427 5,300 19,380 2,291 57,301 6,024 2,212 643 662 909	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542	Wellington   829
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milverton Milverton	2,887 427 5,300 19,380 350 2,291 57,301 6,024 2,212 643 662 909 1,670 1,947 929 2,004	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene Total	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600	Wellington   829   Whitby   2,902     118,478     ST. LAWRENCE SYSTEM   60 Cycles   60 C
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milverton Mi Mitchell	2,887 427 5,300 19,380 350 2,291 57,301 6,024 2,212 643 662 909 1,670 1,947 929 2,004 1,656	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene Total  WASDELL'S SYSTI	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600	Wellington   829   2,902
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milverton Milverton Mirchell Moorefield	2,887 427 5,300 19,380 350 2,291 6,024 2,212 643 662 909 1,670 1,947 929 2,004 1,656	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600 41,941	Wellington   829   Whitby   2,902     118,478     ST. LAWRENCE SYSTEM   60 Cycles   60 C
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milverton Miion Mitchell Moorefield Mount Brydges	2,887 427 5,300 19,380 350 2,57 57,301 6,024 2,212 643 662 909 1,670 1,947 9,004 1,656 335	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600 41,941 EM	Wellington   829   2,902
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milton Mitchell Moorefield Mount Brydges New Hamburg	2,887 427 5,300 19,380 2,291 57,301 6,024 2,212 643 662 909 1,670 1,947 929 2,004 1,650 335 500 1,398	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene Total WASDELL'S SYSTI 60 Cycles Beaverton Brechin	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600 41,941 EM	Wellington   829     Whitby
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milterton Milterton Michell Moorefield Mount Brydges New Hamburg New Toronto	2,887 427 5,300 19,380 350 2,291 57,301 6,024 2,212 643 662 909 1,670 1,947 92,004 1,650 335 500 1,423	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington	7,010 635 599 775 7,109 7,448 3,672 500 250 250 557 1,542 600 41,941 EM	Wellington   829
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milverton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Ningara Falls	2,887 427 5,300 19,380 2,291 57,301 6,024 2,212 643 662 909 1,670 1,947 929 2,004 1,650 335 500 1,398	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600 41,941 EM	Wellington   829
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milverton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Niagara Falls Niagara on-the-Lake Norwich	2,887 427 5,300 19,380 2,291 57,301 6,024 2,212 643 662 909 1,670 1,947 2,046 335 5000 1,398 1,423 11,715	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville	7,010 635 599 77,109 7,482 3,672 500 990 250 557 1,542 600 41,941 EM	Wellington   829   2,902
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Niagara Falls Niagara-on-the-Lake Norwich N. Township.	2,887 4277 5,300 19,380 2,291 57,301 6,024 2,212 642 909 1,670 1,947 929 2,004 1,423 500 1,398 1,423 11,715 1,318 1,093 2,029	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland	7,010 635 599 77,109 7,482 3,672 500 990 250 557 1,542 600 41,941 EM	Wellington   829     Whitby
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Miltorn Milterton Mitchell Moorefield Moont Brydges New Hamburg New Hamburg New Hamburg New Hamburg New Hamburg New Horonto Niagara Falls Norwich N. Township Norwich N. Township	2,827 5,300 19,380 2,291 5,024 2,212 6,024 2,212 6,62 909 1,670 1,972 2,004 1,656 335 5,1423 11,715 1,318 1,018 1,019 2,029 1,907	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville  Total	7,010 635 599 77,50 7,109 7,448 3,672 550 557 1,542 600 41,941 EM 821 215 746 570 357 2,709	Wellington
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milverton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Niagara-on-the-Lake Norwich Norwich N. Township Norwich S. Township Oil Springs	2,887 4,300 19,380 2,291 57,301 6,024 2,212 662 909 1,670 1,947 929 2,004 1,670 1,318 1,015 1,318 1,093 2,029 1,907 537	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville Total  NIPISSING SYSTE	7,010 635 599 77,50 7,109 7,448 3,672 550 557 1,542 600 41,941 EM 821 215 746 570 357 2,709	Wellington   829   2,902   7   118,478   ST. LAWRENCE SYSTEM   60 Cycles   868   Prescott   2,630   Williamsburg   100   Winchester   100   Winchester   100   Winchester   14,113   RIDEAU SYSTEM   60 Cycles   7   60 Cycles   13,706   Perth   3,358   Smith's Falls   6,115   ESSEX COUNTY SYSTEM   25 Cycles   Amherstburg   1,990   Canard River   50   Cottam   100   Essex   1,429   Harrow   375   170
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milverton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Niagara-on-the-Lake Norwich Norwich N. Township Norwich S. Township Oil Springs	2,887 4277 5,300 19,380 2,291 57,301 6,024 2,212 643 662 91,670 1,947 92,004 1,636 500 1,398 1,423 11,715 1,318 1,093 2,029 1,907 537	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville  Total  NIPISSING SYSTE 60 Cycles	7,010 635 599 77,55 7,109 7,448 3,672 550 990 250 557 1,542 600 41,941 EM 821 215 746 570 357 2,709	Wellington   829
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milton Miltor Michell Moorefield Moont Brydges New Hamburg New Toronto Niagara Falls Niagara Falls Ningara Falls Norwich N. Township Oil Springs Otterville Palmerston  Fitcher  Lynden Mount Brydges New Hamburg New Toronto Ningara Falls Niagara Falls Orwich N. Township Oil Springs Otterville Palmerston	2,887 5,300 19,380 2,291 57,301 6,024 2,212 662 909 1,670 1,947 92,004 1,656 335 5,1423 11,715 1,318 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 1,423 1,518 1,423 1,518 1,	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville  Total  NIPISSING SYSTE 60 Cycles Callander	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600 41,941 EM  821 215 746 570 357 2,709	Wellington   829   2,902   7   118,478   ST. LAWRENCE SYSTEM   60 Cycles   868   Prescott   2,630   Williamsburg   100   Winchester   100   Winchester   100   Winchester   14,113   RIDEAU SYSTEM   60 Cycles   7   60 Cycles   13,706   Perth   3,358   Smith's Falls   6,115   ESSEX COUNTY SYSTEM   25 Cycles   Amherstburg   1,990   Canard River   50   Cottam   100   Essex   1,429   Harrow   375   170
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milverton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Niagara Falls Niagara-on-the-Lake Norwich N. Township Norwich N. Township Oil Springs Otterville Palmerston Paris	2,887 4277 5,300 19,380 2,291 57,301 6,024 2,212 642 909 1,670 1,947 929 2,004 41,656 335 500 1,398 1,423 11,715 1,318 1,093 2,029 1,907 5,700 1,843 4,437	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene Total WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville Total NIPISSING SYSTE 60 Cycles Callander Nipissing	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600 41,941  EM  821 215 746 570 357 2,709	Wellington   829
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Hamburg New Hamburg New Hamburg New Hamburg New Horonto Niagara Falls Niagara-on-the-Lake Norwich Norwich N. Township Oil Springs Otterville Palmerston Paris Petrolia	2,887 5,300 19,380 2,291 57,301 6,024 2,212 662 909 1,670 1,947 92,004 1,656 335 5,1423 11,715 1,318 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 11,715 1,318 1,423 1,423 1,518 1,423 1,518 1,	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville  Total  NIPISSING SYSTE 60 Cycles Callander Nipissing North Bay	7,010 635 599 775 7,109 7,448 3,672 500 990 250 557 1,542 600 41,941 EM  821 215 746 570 357 2,709	Wellington   829
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milverton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Niagara Falls Niagara-on-the-Lake Norwich N. Township Norwich N. Township Oil Springs Otterville Palmerston Paris	2,887 5,300 19,380 2,291 57,301 6,024 2,212 662 909 1,670 1,947 922 2,004 1,638 1,423 11,715 1,318 1,423 11,715 1,318 1,423 1,	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville  Total  NIPISSING SYSTE 60 Cycles Callander Nipissing North Bay Powassan	7,010 635 599 77,109 7,448 3,672 500 990 250 557 1,542 600 41,941 EM 821 215 746 570 357 2,709 EM 650 650 9,651 572	Wellington   829   2,902   Total   118,478   ST. LAWRENCE SYSTEM   60 Cycles   9,473   Chesterville   868   Prescott   2,630   Williamsburg   100   Winchester   Total   14,113   RIDEAU SYSTEM   60 Cycles   Carlton Place   3,706   Perth   3,358   Smith's Falls   6,115   ESSEX COUNTY SYSTEM   25 Cycles   Amherstburg   1,990   Canard River   50   Cottam   100   Essex   1,429   Harrow   375   Kingsville   1,633   Leamington   3,604   Total   THOROLD SYSTEM   2,9181   THOROLD SYSTEM   2,632   Cottam   1,633   Camington   3,604   Total   7,633   Camington   3,604   Total   7,633   Cycles   1,633   Camington   3,604   Total   7,633   Cycles   1,633   Cycles   1,633
Hespeler Highgate Ingersoll Kitchener Lambeth Listowel London London Township Louth Township Lucan Lynden Markham Merriton Milverton Milverton Mitchell Moorefield Mount Brydges New Hamburg New Toronto Niagara-on-the-Lake Norwich Norwich N. Township Norwich S. Township Oil Springs Otterville Palmerston Paris Petrolia Plattsville	2,887 4,350 19,380 3,50 2,291 57,301 6,024 2,212 662 909 1,670 1,947 929 2,004 1,656 335 355 1,715 1,318 1,093 2,029 1,947 500 1,843 4,437 3,437 5,500 1,843 1,845	Collingwood Cookstown Creemore Elmvale Midland Orillia Penetang Port McNichol Stayner Thornton Tottenham Victoria Harbor Waubaushene  Total  WASDELL'S SYSTI 60 Cycles Beaverton Brechin Cannington Sunderland Woodville  Total  NIPISSING SYSTE 60 Cycles Callander Nipissing North Bay	7,010 635 599 77.5 599 77.109 7,448 3,672 600 990 250 557 1,542 600 41,941 EM 821 215 746 570 357 2,709	Wellington   829   Whitby

